



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,857	09/22/2003	Kenji Umayahara	116675	4323
25944 7590 08/29/2010 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
WILLS, MONTQUE M				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
08/20/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com
jarnstrong@oliff.com

Office Action Summary

Application No.

10/664,857

Applicant(s)

UMAYAHARA ET AL.

Examiner

Monique M. Wills

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 & 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-12 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 24 and 26 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 6-7, 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/25/2010
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to RCE

This Office Action is in response to the RCE filed June 25, 2010. The claims are treated as follows:

- Claims 3, 4 & 6-7 & 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- Claims 8-12 are allowed.
- Claims 1, 2, 5 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655.
- Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Yonetsu et al. U.S. Pub. 2003/0082421.

Allowable Subject Matter

Claims 3, 4 & 6-7 & 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The instant claims are

allowable over the prior art of record, because the prior art is silent to the generation of the alert being implement when fuel is consumed during the furl cell system performing a heat-retention operation (claims 3 & 6-7). With respect to claim 4, the claim is allowable because the prior art is silent to the alert being sent to an information terminal of the user suing wireless communication. With respect to claim 25, the instant claim is allowable because the prior art is silent to the information terminal being selected from a cell phone, PDA, personal computer or house phone.

Claims 8-12 are allowed. The instant claims are allowable over the prior art of record, because the prior art is silent to the alert method of claim 8 including an information terminal of a user at a location away from the moving body using wireless communication.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655.

With respect to **claim 1**, Itou teaches an alert method relating to a remaining fuel amount of the fuel cell system comprising: switching from an operation state of the fuel cell system to a stopped state of the fuel cell system (par. 25); detecting that the fuel cell system is switched to a stopped state, embraced by the energy amount required to restart the fuel cell system 50 is a computed from the detected outside temperature (par. 25); communicating information related to the remaining fuel amount when fuel of the fuel cell system is connected to an information terminal wherein the fuel cell system is switched to a stopped state (par. 22). With respect to **claim 2**, an alert, warning message or alarm is played on a speaker when the fuel amount is low. See paragraph 22. With respect to **claim 5**, when the fuel cell system 50 has stopped with the warning message an audio message or alarm is issued from a speaker, embracing generating the alert for the user being implemented multiple times in response the remaining fuel amount. See paragraph 35.

Itou does not expressly disclose alerting a user located at a point away from a moving body that the fuel cell is disposed on (**claim 1**) or that the remaining fuel amount is reduced when fuel of the fuel cell system is consumed in the stopped state (**claim 24**).

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to alert a user located at a point away from the moving body that the fuel cell of Itou is disposed on, in order to improve user efficiency by equipping the driver with operating conditions of the vehicle. Further, Itou strongly suggest said arrangement, by teaching an audio alarm that is played on a speaker

when the fuel cell amount is low. See paragraph 22. Depending on how audible the sound, a user outside the vehicle may be on alert that fuel amounts are low.

With respect to **claim 24**, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to reduce fuel amount when fuel is in the stopped state, in order to obviate waste and overflow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Yonetsu et al. U.S. Pub. 2003/0082421.

Itou teaches a fuel cell system arrangement as described in the rejection recited hereinabove, including fuel amount detection sensor 22 which detects the fuel amount remaining in the fuel tank 12. See paragraph 22.

Itou does not expressly disclose that the fuel amount is based on tank pressure or tank weight.

However, Yonetsu teaches that it is well known in the art use tank pressure to determine fuel amounts. See the Abstract and paragraph 134.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the tank pressure based determination of fuel amounts Yonetsu, as the sensor methods of Itou in order to improve accuracy of fuel amount measurements.

Response to Arguments

Applicant's asserts that Ogawa does not expressly disclose communicating information related to the remaining fuel amount to an information terminal of a user located at a point away from a moving body that the fuel cell system. Specifically, because claim 8 has been allowed. This argument is not persuasive as claim 8 requires wireless communication and claim 1 does not. Further, the limitation is satisfied *because the* indicator 41 which displays a warning message or lights a warning lamp and encouraged the drive to refuel. The indicator is on a separate part of the vehicle or a separate moving body. Alternatively, it would have been obvious to one of having ordinary skill in the art at the time the invention was made to employ the indicator separate from the fuel cell, since it has been held that constructing formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1424. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Jennifer Michener, may be reached at 571-272-1292. The fax phone

Art Unit: 1795

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/

Examiner, Art Unit 1795

/Jennifer K. Michener/

Supervisory Patent Examiner, Art Unit 1795